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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,969	08/10/2005	Ruediger Kreuter	02968.268USWO	3601
52835	7590	10/31/2007		
HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902			EXAMINER HIGGINS, GERARD T	
			ART UNIT 4174	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,969	Applicant(s) KREUTER, RUEDIGER	
	Examiner Gerard T. Higgins, Ph.D.	Art Unit 4174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/13/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities, possibly resultant from translation:

- the sentence on page 2, lines 5-11 is both awkwardly phrased and appears to be a run-on sentence
- on page 3, line 19 "fall to be considered" is awkward and unclear
- the sentence beginning on page 4, line 22 is awkwardly phrased (i.e. "[a]s in particular metal oxides as the protective coating" seems to lack a verb) and appears to be a run-on sentence
- on page 5, line 6 the phrase "forego same" seems to lack the definite article
- on page 5, line 18 the phrase "magnetic radiation" should be "electromagnetic radiation"
- on page 6, line 7 a "Zu-doping" is not a recognizable type of doping. Perhaps applicants meant it to be Au-doping, clarification is required
- on page 6, line 10 a "Stocks-Shift effect" is not recognized. Perhaps applicants were referring to a "Stokes-Shift effect," clarification is required

Appropriate correction is required.

3. The use of the trademark MAKROLON has been noted in this application. It should be capitalized wherever it appears and be accompanied by the ***generic terminology***.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

Claim Objections

4. Claim 22 is objected to because of the following informalities: the phrase "wherein the substrate is provided on the surface with information" is awkward, possibly resultant from translation. The Examiner will treat this claim as if it said, "wherein the substrate is provided with information on the surface." Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12, 13, and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner notes that it has been held that “[d]escription of examples and preferences is properly set forth in the specification rather than in a single claim. A narrower range or preferred embodiment may also be set forth in another independent claim or in a dependent claim. If stated in a single claim, examples and preferences lead to confusion over the intended scope of the claim.” Please see MPEP 2173.05(c)(I).

Claim 12 sets forth that the substrate of the document comprises textile, paper, and/or plastic; however, the claim then gives the example “in particular plastic material in film form or card form.” It is unclear whether applicant wishes to claim the broader materials, or specifically plastic materials in film form or card form; however, for the purpose of examination the Examiner will treat this claim as if the former (broader) limitations are claimed.

Claim 13 sets forth that the protective coating comprises ceramic materials; however, the claim then gives an example of ceramics as metal oxides. It is unclear whether applicant wishes to claim all ceramics or specifically those ceramics comprised of metal oxides; however, for the purpose of examination the Examiner will treat this claim as if the former (broader) limitations are claimed. Furthermore, applicant seeks in the same claim to say that instead of the protective layer being comprised of a ceramic, it now consists of a ceramic. Similar to the abovementioned rationale, the Examiner will treat this language as if the broader (comprising) language is claimed.

Claim 18 contains the phrase “irreversibly variable,” which is an oxymoron and hence leads to confusion. The Examiner suggests using the word “adjustable” when

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referring to the index of refraction. Further, claim 18 claims that the index of refraction is both variable and irreversibly variable. It is unclear whether applicant wishes to claim coatings with variable indices of refraction or specifically those coatings with irreversibly adjustable indices of refraction; however, for the purpose of examination the Examiner will treat this claim as if the former (broader) limitations are claimed.

With regard to claim 19, applicant does not state the specific layer that has a variable index of refraction. The Examiner will treat this as if the claim said, "the refractive index of the protective coating is variable." Furthermore, similar to applicant's claim 18, laser light is provided in the same claim as a specific example of a type of electromagnetic radiation capable of changing the index of refraction. It is unclear whether applicant wishes to claim all electromagnetic radiation or specifically laser light radiation; however, for the purpose of examination the Examiner will treat this claim as if the former (broader) limitations are claimed.

Claim 20 contains the trademark/trade name MAKROLON. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the substrate

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and, accordingly, the identification/description is indefinite. For the purpose of examination the Examiner will treat the claim as if it said polyester.

Finally, with regard to claim 21, applicant claims a protective coating that can be penetrated by electromagnetic radiation, specifically laser light. It is unclear whether applicant wishes to claim all electromagnetic radiation or specifically laser light radiation; however, for the purpose of examination the Examiner will treat this claim as if the former (broader) limitations are claimed.

The Examiner notes the same "in particular" phraseology in claim 22; however, the Examiner considers "image information" to be the same breadth as "information," and hence the claim does not rise to the level of indefiniteness.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 12 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Shvartsman et al. (6,245,382).

The Examiner notes the following product-by-process limitations:

- in claim 12, the phrase "in particular has been deposited on the substrate out of the gas and/or plasma phase"

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- in claim 18, the phrase “after application to the security document”
- in claim 19, the phrase “by the action of electromagnetic radiation”
- in claim 22, the phrase “in particular is printed”

It has been held that “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” Please see MPEP 2113 and *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Shvartsman et al. disclose “a protective coating for a data carrying device, [and] a protected data carrying device” (col. 1, lines 6-7). They further give examples of known data carrying devices at col. 1, lines 12-19; included among these are various cards. They disclose the materials that may comprise the substrate at col. 21, lines 21-35; included among these are polyesters and polycarbonates. They disclose the thickness of the protective layer at col. 7, lines 28-42. The range of 0.5 to about 25 microns is clearly within the claimed range of applicant of less than 20 microns. The prior art structure meets the claimed functional limitations, and hence anticipates applicant’s claims 12 and 20.

Claim Rejections - 35 USC § 102/103

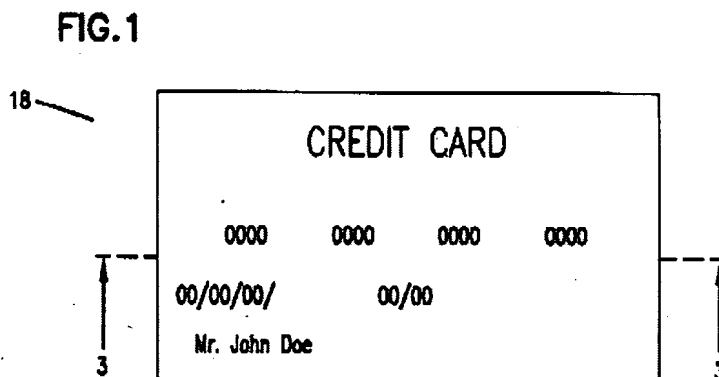
9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 16-19, 21, and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shvartsman et al. (6,245,382).

Shvartsman et al. disclose the materials of applicant's claims 12 and 20 in section 8 above. They further disclose at col. 21, lines 53-65 that printed matter of various types are placed on the substrate prior to adhering the protective coating. It is clear from Figure 1, a printed/laminated substrate, that the protection layer is transparent so as to afford a document wherein the printed matter is visible; hence the protective layer can be penetrated by electromagnetic radiation. These limitations read on the structural limitations of applicant's claims 21 and 22.

Although Shvartsman et al. is silent with respect to the increased adhesion of the information layer to the protective layer versus the substrate, and the ability of electromagnetic radiation to produce an optical variation in the substrate and not the protective coating, the Examiner has reason to believe that a document as set forth by Shvartsman et al. would inherently perform the claimed functions and properties.



Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the electromagnetic radiation or the composition of the protective coating and substrate to achieve a document possessing all the limitations of applicant's claims 21 and 22.

Further, Shvartsman et al. are silent with respect to their document having "self-cleaning" or "self-healing" properties of applicant's claims 16 and 17, respectively; they do disclose that these protective coatings have "superior abrasion and chemical resistance" (col. 4, lines 22-23). The Examiner has every reason to believe that the protective coatings of "superior abrasion and chemical resistance" of Shvartsman et al. would have every ability to perform as the "self-cleaning" and "self-healing" layer of applicant.

Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the composition of the protective coating and the substrate to achieve a document possessing all the limitations of applicant's claims 16 and 17.

Even further, Shvartsman et al. disclose various tests performed to establish said abrasion and chemical resistance at col. 21, line 66 to col. 22, line 21. Included among these is a test concerned with the "reflection density of a printed device before and after" exposure to UV light (col. 22, lines 14-21). Specifically, Shvartsman et al. disclose 90% retention of color of printed matter compared with 80% for a conventional device; however, they are silent with respect to their protective layer having a variable refractive index. The Examiner has reason to believe that the disclosed information with respect to "reflection density" clearly shows that the refractive index of the protective layer is inherently adjustable; otherwise it would not be possible for the invention of Shvartsman et al. to further block out UV radiation when judged alongside a comparative example. This therefore anticipates applicant's claims 18 and 19.

Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the composition of the protective coating and the substrate to achieve a document possessing all the limitations of applicant's claims 18 and 19.

Claim Rejections - 35 USC § 103

11. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shvartsman et al. (6,245,382), as applied to claim 12, in view of Araki et al. (WO97/48774), which is the parent application of the US national stage patent 6,207,236, which will be used herein as an English translation.

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Shvartsman et al. set forth all the limitations of applicant's claims 12 as seen in section 8 above; however, Shvartsman et al. fail to disclose a protective layer comprising any of ceramic, silanes/silazanes, or fluoride materials.

Araki et al. disclose coating films that provide "excellent transparency, abrasion resistance, weather resistance, and water repellency" (Abstract). They disclose as prior knowledge coating compositions very similar to their invention at col. 4, lines 34-39. Included among these are coating compositions of a silane and a fluorine-containing ethylene. Furthermore, they disclose as their invention a coating composition comprising various fluorine-containing monomers such as tetrafluoroethylene (Equation 3, col. 7, line 58) in combination with a metal oxide, which forms the matrix (col. 9, lines 43-65). Specific mention is made of aluminum and silicon oxide, which are ceramics.

Both Araki et al. and Shvartsman et al. are drawn to coatings providing chemical and abrasion resistance. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the known coating compositions of Araki et al. on the data carrying substrates of Shvartsman et al. to provide enhanced coatings, which would have been obvious to one of ordinary skill in the art.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerard T. Higgins, Ph.D. whose telephone number is

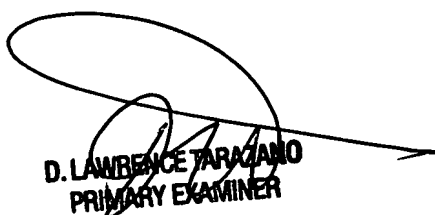
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571-270-3467. The examiner can normally be reached on M-F 7:30am-5pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins, Ph.D.
Examiner
Art Unit 4174



D. LAWRENCE TARAZANO
PRIMARY EXAMINER